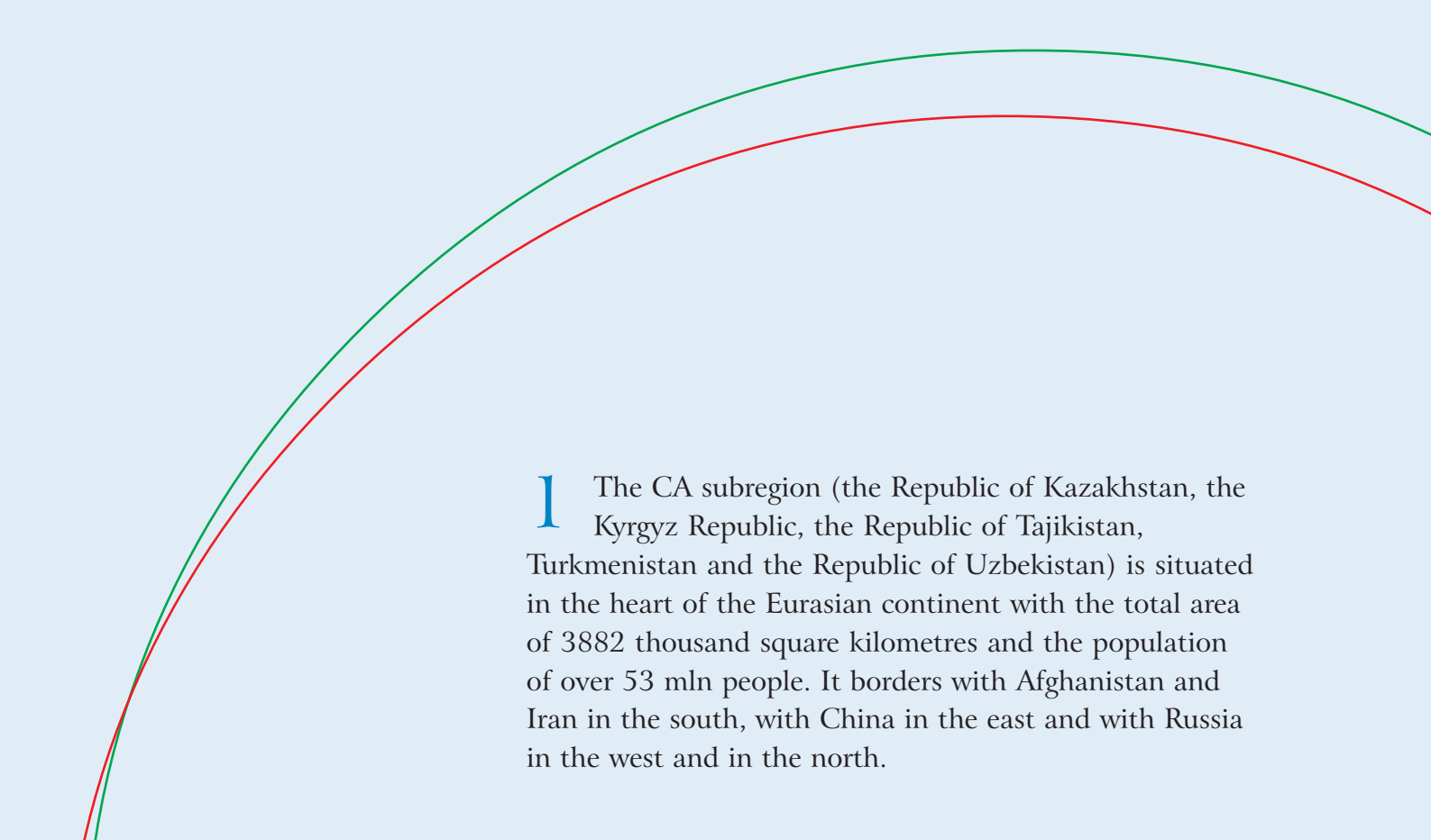


ENVIRONMENT, WATER AND SECURITY IN CENTRAL ASIA

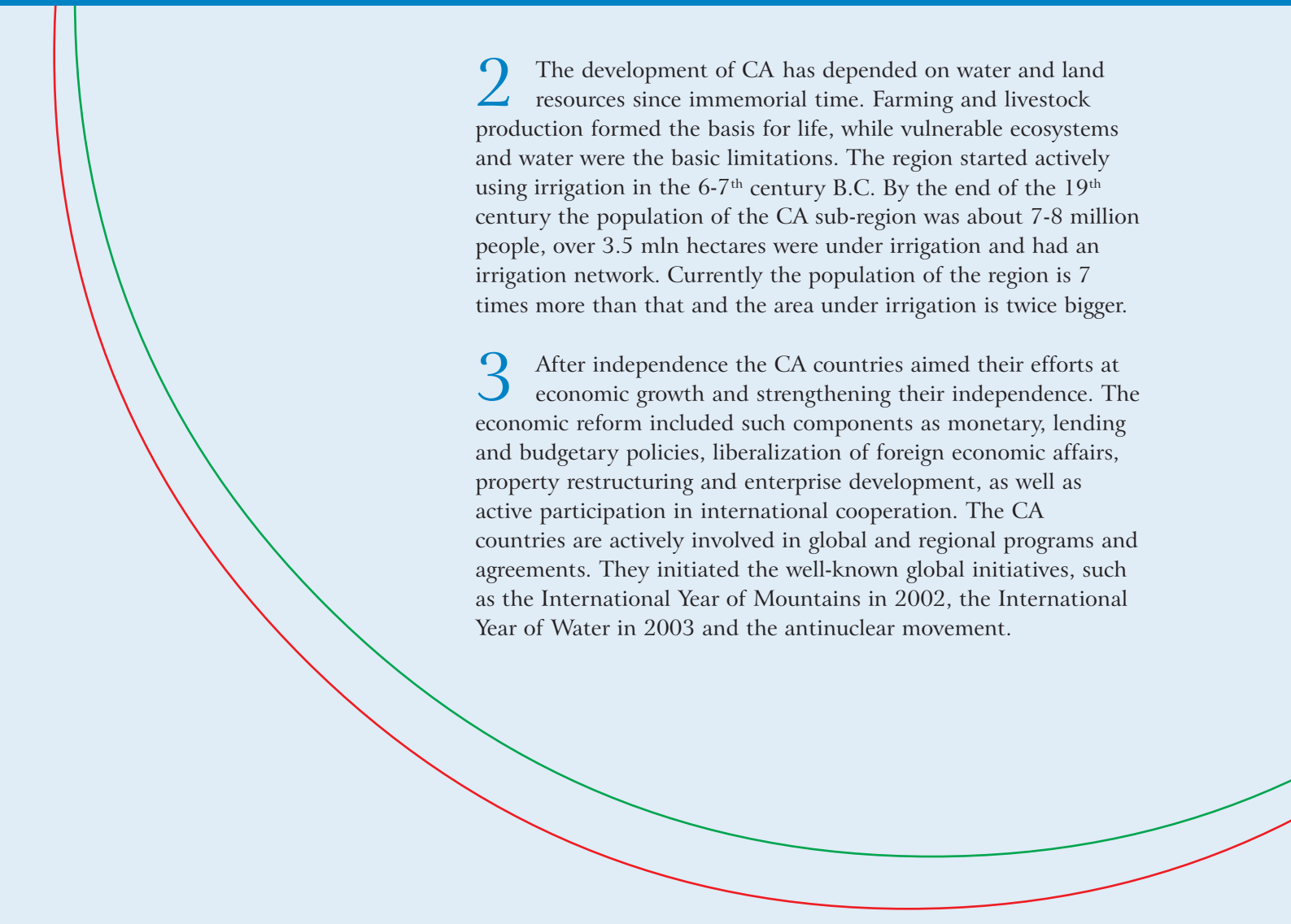
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1 The CA subregion (the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan and the Republic of Uzbekistan) is situated in the heart of the Eurasian continent with the total area of 3882 thousand square kilometres and the population of over 53 mln people. It borders with Afghanistan and Iran in the south, with China in the east and with Russia in the west and in the north.

INTRODUCTION



2 The development of CA has depended on water and land resources since immemorial time. Farming and livestock production formed the basis for life, while vulnerable ecosystems and water were the basic limitations. The region started actively using irrigation in the 6-7th century B.C. By the end of the 19th century the population of the CA sub-region was about 7-8 million people, over 3.5 mln hectares were under irrigation and had an irrigation network. Currently the population of the region is 7 times more than that and the area under irrigation is twice bigger.

3 After independence the CA countries aimed their efforts at economic growth and strengthening their independence. The economic reform included such components as monetary, lending and budgetary policies, liberalization of foreign economic affairs, property restructuring and enterprise development, as well as active participation in international cooperation. The CA countries are actively involved in global and regional programs and agreements. They initiated the well-known global initiatives, such as the International Year of Mountains in 2002, the International Year of Water in 2003 and the antinuclear movement.



4 Since the early 90-ies many projects directed to solve the problems of environment and development have been implemented at the support from the donor and international programs. Many of them were quite successful, however, the complex transition period was retarding their impact. It was becoming evident, that there is a need for a different approach, based on long-term and more reliable processes involving stakeholders and community and on own capabilities. During the WSSD preparatory process the CA countries have developed the approach and proposed a partnership initiative for sustainable development in the sub-region (The CA Agenda 21), which was incorporated into the final documents of the W S S D (3 8) (www.johannesburgsummit.org/html/sustainable_dev/p2_partners_other_areas/central_asian.pdf). The initiative envisions integration of the existent processes and the enhancement of cooperation mechanisms among sectors,

countries and donors to achieve common development goals. The Programme of Specific Actions to improve the environmental, social and economic status in the Aral Sea basin for 2003-2010, the European Environmental Programme and other international initiatives (13, 17, 29, 30, 38) could play an important role in this Initiative.

5 Within the framework of the process “Environment for Europe” at the meeting in Khujand (Tajikistan) in October 2002 it has been proposed to consider the issues of environment, water and security in CA at the 5th Pan-European Environmental Ministerial Conference and for that to prepare a report as a foundation for strengthening cooperation (19). The report “Environment, Water and Security in CA” developed by the CA experts with support from the CAREC and UNECE is meant to reflect the key development challenges in the CA and to propose actions to attain the common development goals in view of the

commitments made by the CA countries, international organizations and donors.

6 The draft report was circulated for public discussion. At the end of January on the Consultative Meeting of Heads of Environment Protection and Water management structures with participation of representatives of international and social organization, business structure and donor countries the Report was approved and recommended as basis for achievements of priority aims of Sustainable Development in Central Asia. The materials of the sub-regional and national CA reports on progress with Agenda-21, NEAP, EPR, as well as the SPECA Program (UNECE and ESCAP), GEF, UNEP and other international programs and documents on the issues of environment, water and development have been used in preparation of the report. The report also includes statistics and other official sources of the CA countries.

7 The CA is a unique natural entity with a wide variety of ecosystems, including the highest ranges of the Pamirs, Tyan-Shan and Altai mountains, the vast deserts and steppes, large ancient rivers: the Amudarya, Syrdarya, Irtysh and Ili, and a lot of lakes including the lake Issyl-Kul is one of the world's most beautiful and deepest lakes. The CA ecosystems play an important role in maintaining the global environmental equilibrium and water exchange.

I CENTRAL ASIA: NATURAL AND SOCIO-ECONOMIC POTENTIAL





8 The sub-region is rich in natural and power resources. The CA has significant reserves of oil and gas, iron and copper ores, phosphorites and uranium. Turkmenistan ranks third in the world among the largest gas suppliers. Uzbekistan is the eighth largest gold producer in the world. The mountain ecosystems of Kyrgyzstan and Tajikistan concentrate substantial world's fresh water reserves. Kazakhstan is famous for its affluent hydrocarbon and mineral resources. The CA is endowed with an extensive potential of renewable power resources, such as hydro and wind power.

9 The CA is located at the intersection of the thoroughfares. The Turkestan-Siberian main line and a network of railroads cross the area of the sub-region. The sub-region has an access to the Persian Gulf through Iran, to the Indian Ocean through Afghanistan and Pakistan and to the Asian-Pacific through China. There is a network of motor roads, communications, navigation and air service. The available transportation infrastructure also has a great potential for development.

10 Abundance of warmth and solar energy together with sufficiently fertile soil create favorable conditions for the development of farming. Water from the mountainous rivers is used for irrigation and watering. Especially extensive

areas of irrigated land are concentrated in the midstream and downstream of the Amudarya, Syrdarya, Zeravshan, Talas, Naryn, Ili, Chu and in the foothill valleys. Uzbekistan holds the fourth place in the world in cotton production. Natural conditions are favorable for livestock production; an extensive river network and abundance of manmade water reservoirs create conditions for the development of commercial fishing.

11 Since the second half of 90th the tendency to growth in agriculture has appeared in CA (by 9% in Kyrgyzstan, by 4% in Tajikistan, by 26% in Turkmenistan and by 29% in Kazakhstan). The structure of sown areas is changed – the areas under cereal crop in Turkmenistan and areas under gardens, melons and gourds and vegetables in Uzbekistan are increased. The growth of the basic kinds of the production of cattle breeding is observed in Kyrgyzstan and Uzbekistan. The development of economics, in spite of existing difficulties indicates the presence of the positive forces in society and tendencies of CA countries toward an achievement of SD goals.

12 The CA is known for its unique landscapes and a rich variety of flora and fauna. Many CA regions serve as natural habitats and migration sites for various

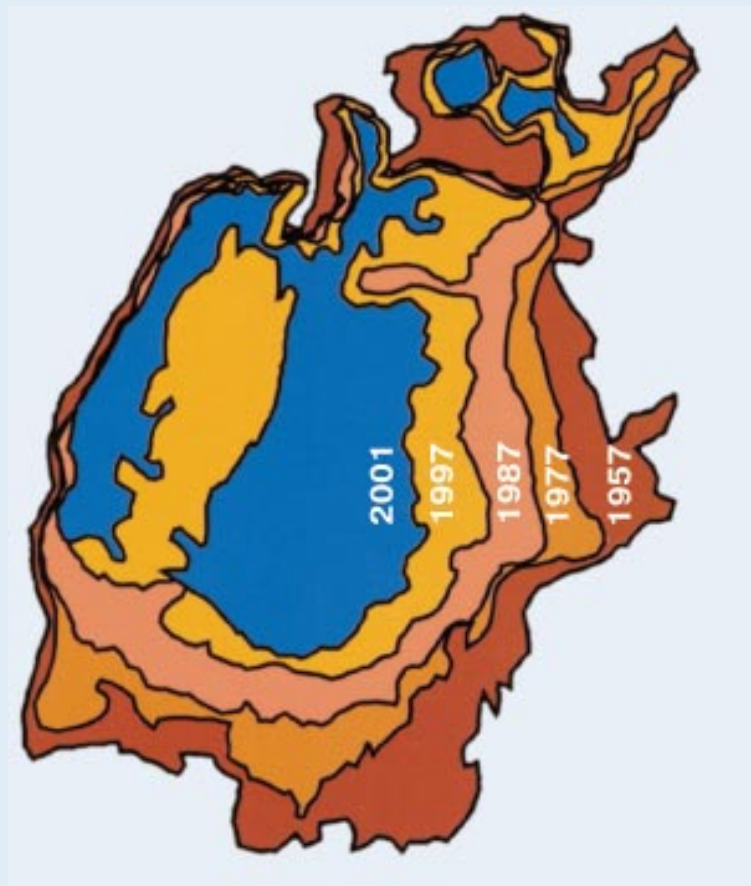
species of flora and fauna, as well as endemic CA natural sites. They are the historical places of origin for wild fruit and berry varieties. There are numerous globally significant relic and endemic species of flora and fauna, which survived within the CA region.

13 The CA states have established a certain potential for strengthened cooperation. A number of important decisions have been made at the level of the heads of states, sub-regional organizations have been established, joint programs and projects have been launched. (Annex). The countries in the sub-region are actively developing their collaboration with regional and international programs and are the members of many international and regional organizations and the parties to the basic international environmental agreements on biodiversity, climate, and desertification.

14 Despite many unresolved problems, the established system of sub-regional agreements and organizations, such as IFAS, ICSD, ICWC, allowed to maintain peace and security in CA throughout the ten years and to prevent recurrence of the previous conflicts related to water and land resource shortage. The IFAS is one of a few representative sub-regional organizations in the world, as the heads of the states act as its founders.

15 One of the distinctive features of CA is vulnerability of its ecosystems. The CA is located in the single environmental space of land-locked Caspian and Aral basins, the Balkhash and Issyk-Kul lakes, which, couple with the arid climate, results in significant environmental limitations for economic activity and trade.

II THE BASIC SECURITY THREATS AND LIMITATION FACTORS OF DEVELOPMENT



A) ECOSYSTEM DETERIORATION – SHRINKING LIVING SPACE

16 Development of irrigated farming in the Aral Sea basin was unprecedented by its scale for the modern history, went beyond the capacity of the ecosystem and resulted in its destruction, followed by disastrous environmental, social and economic consequences. Intensive water scoop caused the level of the Aral Sea to drop by 17-19 meters and its capacity to decrease by 75%. By the end of the 80-eis the sea virtually stopped its existence, a whole series of negative effects came about: drastic deterioration of water quality and human health; scaled desertification; soil salinity and swamping; decreasing the biological and landscape variety; and increasing adverse effects upon climate (13, 15, 30).

17 The resource-based approach, developed during the arms race, still dominates the water sector in the CA countries. Though there is a demonstrative example of the Aral disaster, water is primarily looked at from agricultural and power-producing viewpoint without any consideration being given to its other functions. As a consequence, drinking water quality, human health, soil fertility and productivity are deteriorating; poverty, unemployment and migration are increased.

18 Well-being in CA depends a lot on the natural balance in the area of river formation – the mountainous ecosystems of the Pamirs, Tyan-Shan and Altai. High mountainous ecosystems

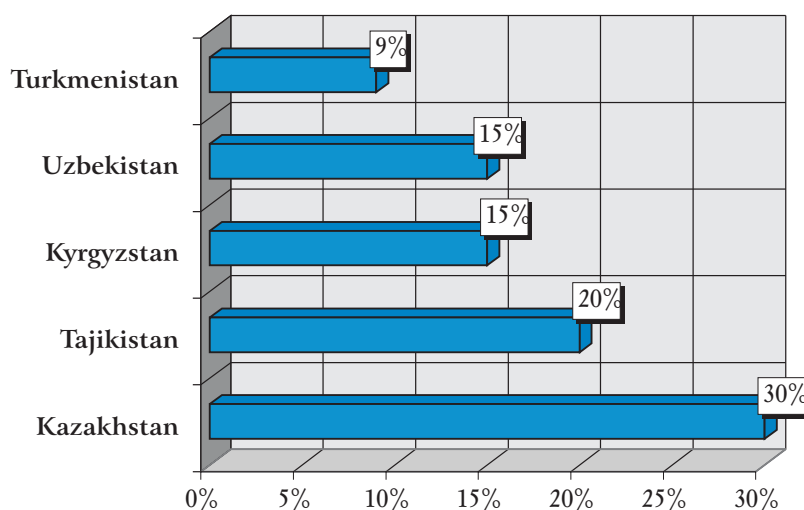
absorb moisture from the top atmospheric layers transported by the air masses primarily from the Atlantics and serve as the gigantic fresh water accumulators. They hold almost the total water-flow of the Aral basin. However, degradation processes, such as deforestation and erosion, pollution with wastes and grasslands reduction are becoming increasingly severe in the CA mountains. Degradation of mountainous ecosystems causes disruption of hydrological regime and depletion of water resources. The glaciers of the Pamirs and Altai lost over 25% of ice reserves from 1957 to 2000 and this process is intensively developing. (12)

19 The area under forests in CA has shrunk by 4-5 times since the middle of the previous century. Developed for farming haloxylon and flood plain forests (tugais) have suffered severely from human activity. Only in the flood plain of the Amudarya river the area under forests has reduced from 150 thousand hectares to 22-23 thousand hectares for the last decade. This process is currently continuing. Tugai forests degradation downstream of the Amudarya and Syrdarya rivers have been strongly affected by the disruption of hydrological river regime. (24)

20 Species diversity of flora and fauna in the CA countries directly depends on the status of ecosystems. Ecosystems deterioration has led to a significant reduction of

“The environmental crisis in the Aral Sea basin was recognized by the world community to be the largest disaster of the 20th century, which had a severe impact upon more than 50 million people in the region”. The population of the Aral area turned into a victim of a confrontation between the political systems of the free world and socialism. The world community, despite its attention to this environmental problem of planetary scale, did not provide the assistance that would help to resolve the problem. Despite certain efforts made by the world community and the Central Asian countries, the Aral crisis and related environmental, social and economic issues in the region have not been radically stabilized within the recent years. (Communiqué on the Outcomes of the Donor Meeting Focused on the Aral Sea Basin Problems, Dushanbe, December 4, 2002)

Reduction of Arable Land per Capita within the Last 10 Years



biodiversity. The number of extinct or endangered animal species and plant varieties is growing. In some cases these processes are irreversible. Overregulated river water-flow and contamination resulted in reduction of fish reserves. The overall catch of fish from the natural reservoirs in CA has gone down by over 60 % since 1990.

21 The CA countries, other Caspian states and the world communities are seriously concerned about the status of the Caspian Sea ecosystem, which is the world's largest inland reservoir with a unique biological variety of flora and fauna. Disintegration of environmental and economic interests in the Caspian basin endangers this unique ecosystem.

22 As a result of business activity and no tracking of the natural ecosystem limits, desertification processes affect more than a half of the CA area. The share of salinated areas under irrigation has reached 50% in Uzbekistan and 37% in Turkmenistan. The area under farming in CA has been decreased by 16,4 mln hectares due to wind, water erosion and secondary salination. The size of land affected by desertification and degradation in Kazakhstan is about 179.9 mln hectares or 66 % of its area, and up to 80% in Turkmenistan and Uzbekistan. (30). As stated in GEF's Project "Water Resources and Salts Management at the Local and National Level", if the former salination trends persist, the main part of agricultural land in the river basins will become unsuitable for irrigated farming within several decades, alongside with that, salination of rivers will cause severe damages to the river ecosystems and will make them unsuitable to be used as drinking water sources. (15)

23 New sites of manmade desertification continue to be added to the numerous military testing grounds, such as a worldwide known Semipalatinsk nuclear testing ground, space launching site Baikonur and a new desert Aralkum. The maximum capacity of natural environment in the sub-region, its self-cleansing and recovery abilities have been exceeded by several times.

The sturgeon supplies of the Caspian Sea are 90% of the world supplies. The total annual fish catch from the Caspian Sea was 530 thousand tones in 1970. At present the catch of sturgeon reaches just 6-10 thousand tones. 17 large fish pestilences in the Caspian Sea have been registered in 1987. Practically the Caspian herring is completely disappeared. The supplies of sprat are decreased by 40%.

B) WATER RESOURCE SUPPLY

24 Available water resources and water supply have always limited settlements and business activity in CA. The following are the largest rivers of interstate importance: the Syrdarya and Amurdarya (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan), Chu and Talas (Kyrgyzstan and Kazakhstan), Tarim (Kyrgyzstan, Tajikistan, China), Ili (China, Kazakhstan), Irtysh (China, Kazakhstan, Russia), Ural, Ishim, Tobol (Kazakhstan, Russia). Of great importance are the Caspian Sea, lakes Issyk-Kul, Balkhash and other natural water reservoirs, as well as the large manmade reservoirs in the basins of the rivers Syrdarya, Amudarya and Irtysh. The mountainous part of the basin accommodates over 4 thousand of large and small glaciers with the total area of over 4 thousand square kilometers. There are over 10 large water reservoirs in the upper ASB with the aggregate water-flow control of 30 billion cubic meters. (12)

25 Precipitation, underground and return water are the additional sources of water resources in the CA. The latter is also a source of contamination for water bodies. Several hundreds of reservoirs have been created in the sub-region by drain water and wastewater. Noteworthy are the Aidar-Arnasai reservoir of over 20 cubic kilometers, Sarykamysk of over 100 cubic kilometers, Dengizkul, Solenoye, Sudochoye and other reservoirs holding millions of

cubic meters of water. As a rule, such reservoirs are not running; flora and fauna do not develop in them because of the unstable water and salt regimen.

The Aidar-Arnasai lake fed by drain and effluent river water is located in the middle part of the Syrdarya river 150 km away from Tashkent. It was formed in 1969 as a result of the effluent drain from Toktogul and Chardarin water reservoirs. Over 118 thousand hectares of developed pastures are currently flooded, the adjacent irrigated areas of the Golodnaya steppe are endangered; wells, barnyards and fishing installations have been flooded. Flooding of coastal vegetation and aquatic plants lowered self-cleansing capacity and undermined the feed supply for herbivorous fish species. (Diagnostic Analysis of the RK and EECCA Environmental Strategy)

26 A significant amount of fresh water is contained in the Sarez lake, which was formed in the Pamir's mountains in Tajikistan as a result of an earthquake in 1911 at over 3000 meters above the sea level. Currently the lake has a serious danger of potential disaster in case water bursts through the natural dam.

Bursting of this natural dam became more probably after the earthquake in the northern Afghanistan in 1998 (the same seismic belt). Presumably the bursting the Usoi's dam will cause the catastrophic flood along the Bartanga, Pyandzh and Amu-Darya rivers, which reach the Aral Sea and cover an area, is equal 69 thousand square km in Tajikistan, Turkmenistan, Uzbekistan and Afghanistan, where more than 5 millions people live. Therefore, the burst of the Sarez lake should not only be viewed as a problem potentially endangering the CA states, but as a global environmental problem (15).

27 Long-term operation without any overhaul also creates a threat of bursting for the dams and canals in the CA. Leakage through canal dams may lead to destruction of private houses and facilities, casualties and significant tangible damage. The broken canal sections do not allow the canals to carry projected amounts of water. The rural population is not able to solve such problems themselves without assistance.

The poverty level in the CA countries varies from 40% to 83% and is linked to the reduction of land productivity, mismanagement and corruption (CA: Agenda 21 Implementation Progress Review). However, poverty in the rural areas is not the root cause of the problem. Farmers do not get remuneration (prices) they deserve for their work and products, which is why technical maintenance and operations are not appropriate and the lack of motivation and indifference are observed everywhere. In its turn, this resulted in negligent management of land and water resources and, therefore, in low productivity.... The systems continue collapsing, the people are losing their incentive to work, and environmental degradation of water and land resources is worsening. (15)

28 Population growth and economic development have significantly increased the demand for water. Daily surface and underground water drawoff in CA countries varies from 20% of available water resources (Kazakhstan, Kyrgyzstan, Tajikistan) to 80-90% (Uzbekistan, Turkmenistan). 90% of all taken water is surface water.

29 Tajikistan and Kyrgyzstan have the best supply of water resources, where 50% and 30% of the ASB water flow are formed respectively (1). However, the rest of the CA experiences a shortage of water resources. Currently there doesn't seem to be any severe shortage of water, as the needs are met primarily at the expense of the ecosystem. However, water shortage is already having an adverse effect upon social and economic situation. For example, during the last several years water supply downstream the Amudarya River amounted to 50% of the agreed water drawoff limit, which, in its turn, was also lower than required. The shortage will grow with time, especially in view of the population growth in CA, of the increase of water scoop by Afghanistan and aggravated desertification process and climate change.

30 Climate continentality and aridity, an extremely uneven distribution of water resources across the area and the seasons create additional requirements for the water use pattern in CA. Another difficulty is a substantial transformation of water flow in the water basins because of the water use for the purposes of power generation and irrigation. ASB has a system for the river flow control, which includes a large number of in-channel basins and off-channel basins with the aggregate capacity of 60 cubic km. The water resources in this basin are primarily used for agriculture, mainly for irrigation (80-90%). However, because of the low

Available Water Resources and Water Use (UNESCO Report, 1999 Data in km³)

	Kazakhstan *	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Total for Aral sea basin
Water-flow Formed within the Country or Crossing It, According to FAO	14,5	44,0	63,3	23,4	55,2	200,4
Reserved for the Lower Section under the Soviet Tradition		32,0	50,3		10,5	92,8
Annual Reserve of Ground Water Regardless Water-flow		2,4	3,0	1,2	6,8	13,4
Water for Aral	5,0				15,0	20,0
Surface Water Resources Consumed under Agreements	9,5	12,0	13,0	23,4	29,7	90,5

* For Kazakhstan –only the Syrdarya basin The basins of Kyrgyzstan’s rivers flowing to China are not included

performance factor of the majority of water systems there are great irretrievable losses of water. Water resources are the main source of electric power for the upper river countries (Kyrgyzstan and Tajikistan) (91% and 98% of the total power generation respectively). (12) However, the increase of hydraulic power production does not fit into the interests of irrigation and of the lower river countries.

31 The unbalance of energy and irrigation interests and the uneven seasonal water consumption lead to the escalation of contradictions between sectors and countries. Within the existing framework of relations rich in fresh water Kyrgyzstan and Tajikistan do not get an adequate economic return

through preservation of water resources, which are not only significant for the sub-region, but are also important for the global equilibrium. It is necessary to keep in mind that Afghanistan is also a large water consumer in the Aral Sea basin and may require an increase of its share of water for social and economic development. What should be considered is that Afghanistan is also a large water user in the Aral Sea Basin and may demand an increase of its water share for its social and economic development. According to a number of experts, when the situation in Afghanistan becomes normalized, the rightful water abstraction from the Amudarya basin will amount to 9-10 km³. This will create a significant threat to social and

environmental security in the sub-region and will severely affect the economic interests of Turkmenistan and Uzbekistan.

32 Lake Balkhash, one of the largest lake of the Eurasian continent in the southeast of Kazakhstan, plays a significant role in the economy of the country, as well as in maintaining the natural and climatic balance in the region. However, as a result of unbalanced interests the hydrological regimen gets disrupted, water mineralization grows and water quality deteriorates. According to expert projections, shallowing and salinization of Balkhash may have the effects similar to the tragedy of the Aral Sea. Unfavourable trends of ecosystem degradation are aggravated by the construction of waterworks in China.

33 The Irtysh river is another river with a big man-caused burden. Only in Kazakhstan 53 large enterprises discharge into Irtysh 260 million cubic meters of wastewater. The issues of transboundary use and preservation of this river involve the interests of not only the two countries, but of the whole region. Given the current climatic trends and flow reduction water diversion through the canal Black Irtysh – Karamai in the Chinese territory may adversely affect the ecosystem of this basin. According to the experts, water diversion from this river planned by China may have disastrous consequences for the economy and environment of Kazakhstan and Russia. Diversion of 20-25% of water from the Black Irtysh may lead to degradation of the ecosystem, shallowing and water quality deterioration in the Irtysh river. Its basin accommodates such cities as Ust-Kamenogorsk, Semipalatinsk, Karaganda on the Kazakhstan side and Omsk, Tyumen, Khanty-Mansiysk on the Russian side.

34 There is a wide discussion in the region about diverting a part of the Siberian rivers flows to CA and about creating the largest manmade sea in Asia – “Karakum Golden Age Lake” in Turkmenistan. It is supposed to carry out a transfer of 7% of the Ob’ river water supplies through a channel with length of 2550 kilometres, wide of 200 meters and depth of 16 meters from Khanty-Mansiysk to CA. The building of pumping stations with annual energy consumption is 10 milliards KW/h is planned too.. The Karakum lake will reach the area of 2 thousand km² and up to 10 km³ of water per year will be exported for the lake. The estimated project duration is 15-20 years; its implementation will require from \$ 4 to 5 milliards US dollars. The nature of the discussion demonstrates the need to involve expert organizations and stakeholders and improving the existing decision-making system at the subregional and regional levels.

Currently the serious risks for security in the sub-region with regards to the use of transboundary water resources are rooted in a number of causes:

- *lack of a common legal framework for the shared use of water resources;*
- *national and state interests in CA countries take priority, which, in fact, means division of a single water ecosystem that cannot function in a local area mode;*
- *different levels of social, political and economic development in the CA countries;*
- *consistently increasing demand for water resources.*

KISR: The Problem of Water Resources Use in CA.

35 Many manifestations of the lack of interest in coordination in the area of water shortage took place in CA. Going back to the Soviet time (in 1969, 1974 and 1989) this sub-region used to be the place of local conflicts with casualties, and water used to be the reason for such conflicts. In June 1990 an ethnic conflict in the south of Kyrgyzstan led to the tragic consequences with many casualties; eventually, it nearly turned into a political conflict. The Fergana valley with its high population density and many ethnic groups is a region of social tension in the CA. However, conflict resolution and economic integration processes in CA demonstrate the potential for cooperation and peacemaking.

36 It should be recognized, that no industry uses water resources efficiently, especially as far as irrigated farming is concerned. The greatest water losses are caused by mismanagement and outdated technology. According to the experts, such losses reach 37% of the water supply. Increased losses in the production sector's distribution network are related to the technical degradation of the reverse water supply systems and increased number of breakdowns. The level of water consumption per capita in CA is in average twice as high as the one in the developed countries.

37 However, population water supply for domestic and drinking needs remains insufficient: 62-90% in urban area and 70-76% in rural areas. (38) Current and former

pollution aggravates the problem with the lack of clean water. There is still a serious threat that the Syrdarya river may become contaminated with radioactive wastes from the tailing dams in the basin of the Mailu-Suu river. Contamination with pesticides and mineral fertilizers is also a big problem. In late 70-ies the total amount of pesticides applied in the CA was 30-35 kg per hectare – almost 30 times more than in the USSR. Even though much less chemicals are being used nowadays, there is still a lot of them left in the soil since the past times.

38 The quality of fresh water is worsening while its consumption is growing; this is a trend observed in CA. The situation with safe drinking water supply for the population in the sub-region is getting worse every year. This is a problem for all of the CA countries. About 4 million people in Kazakhstan do not have tap water, 14% of the urban and 27% of the rural population do not have access to safe drinking water and 16,5 % use water from the open water reservoirs for drinking purposes.(35) About 40% of the population in Tajikistan use water from the open sources. (25) Water use rates growth, lack of transparency in pricing and public monitoring contribute to the growth of social tension.

39 Morbidity among population in CA is closely related to the quality of drinking water. This is especially evident when it comes to infectious and gastrointestinal

diseases, as well as anemia. There are periodical outbreaks of hepatitis, typhoid and cholera, tuberculosis incidence is significant, chronic illnesses exacerbate. In the Aral area 80% of the pregnant women suffer from anemia; anemia incidence among children is 6 times higher than the average incidence in CA.(21) Mortality rate in the sub-region, especially as far as maternal and infant mortality is concerned, remains to be one of the highest and there are no signs of it going down. Intestinal illnesses are one of the most common causes of infant mortality. The number of children dying of infectious diseases is five times higher than in the Eastern European countries. Increasing incidence of malignant tumors, especially, breast cancer, which is number one cancer problem for women, prevalence of allergies related to water and food contamination, high maternal and infant mortality are the real threats for the gene pool and future generations.

40 Water is the key factor for the well being of CA countries. Availability of clean water will determine the quality of life and the future development in the sub-region. These countries are united through the ecosystems of the water basins. Any changes in water use of one country will inevitably affect the interests of the other countries. The need of a common scheme of management for the CA water basins is rooted in the nature itself and requires the working out and development of mechanism of cooperation.

41 In CA there is an evident manifestation of dependence between unsound water use and water shortage, reduced soil productivity and biodiversity, morbidity, poverty and conflict growth (chart 1). As the chart indicates, one of the key problems is ineffective governance and lack of capacity.. Both the ecological crisis in BAS (Basin of the Aral Sea) and the habitat destruction due to a neglect of the management eco-system limitations led to the aggravation of the socio-economic problems and the conflicts' growth. The ecological crisis observed in basins of the Caspian Sea, the Irtysh and the Balkhash has the same reasons as BAS.

III MANAGEMENT AND INSTITUTIONAL POTENTIAL



42 The International Conference on Fresh Water Issues (Bonn, December 2001), devoted to preparation for the WSSD and the 3rd World Water Forum, identified the following three areas for priority action in the water sector: governance, financial resource mobilization and capacity building”(6) Practically all the international organizations such as WB, ADB, ECE, UN, OECD, GEF, EC, SPECA and others have repeatedly given the recommendations for improvement of the management system, legislation, economic mechanisms and decision-making procedures. The common failings of the present management system have been noted almost in all recommendations. They do not meet the increasing requirements of environment and development.

43 There are various interpretations of the term “governance”, related to its inadequate translation into the Russian language as “management”, though the concept includes more elements than “management” as such. In general, it includes relationships between society and its government with a combination of political, social, economic and managerial systems. The UN programs use the concept “Integrated Water Resource Management”, justified by the Global Water Partnership (16), which is based on the principles of:

- ◆ Water Resource Management within Hydrographic Boundaries;
- ◆ Causes and Effect Relation of Priority Problems in Central Asia Management of All Types of Water – Surface, Underground and Return and Their Interaction;

- ◆ Integration of Water Users’ and Water Consumers’ Interests;
- ◆ Integration of Various Management Hierarchy Levels;
- ◆ Community Involvement in Decision-Making Process;
- ◆ Priorities of Nature as a Water User.

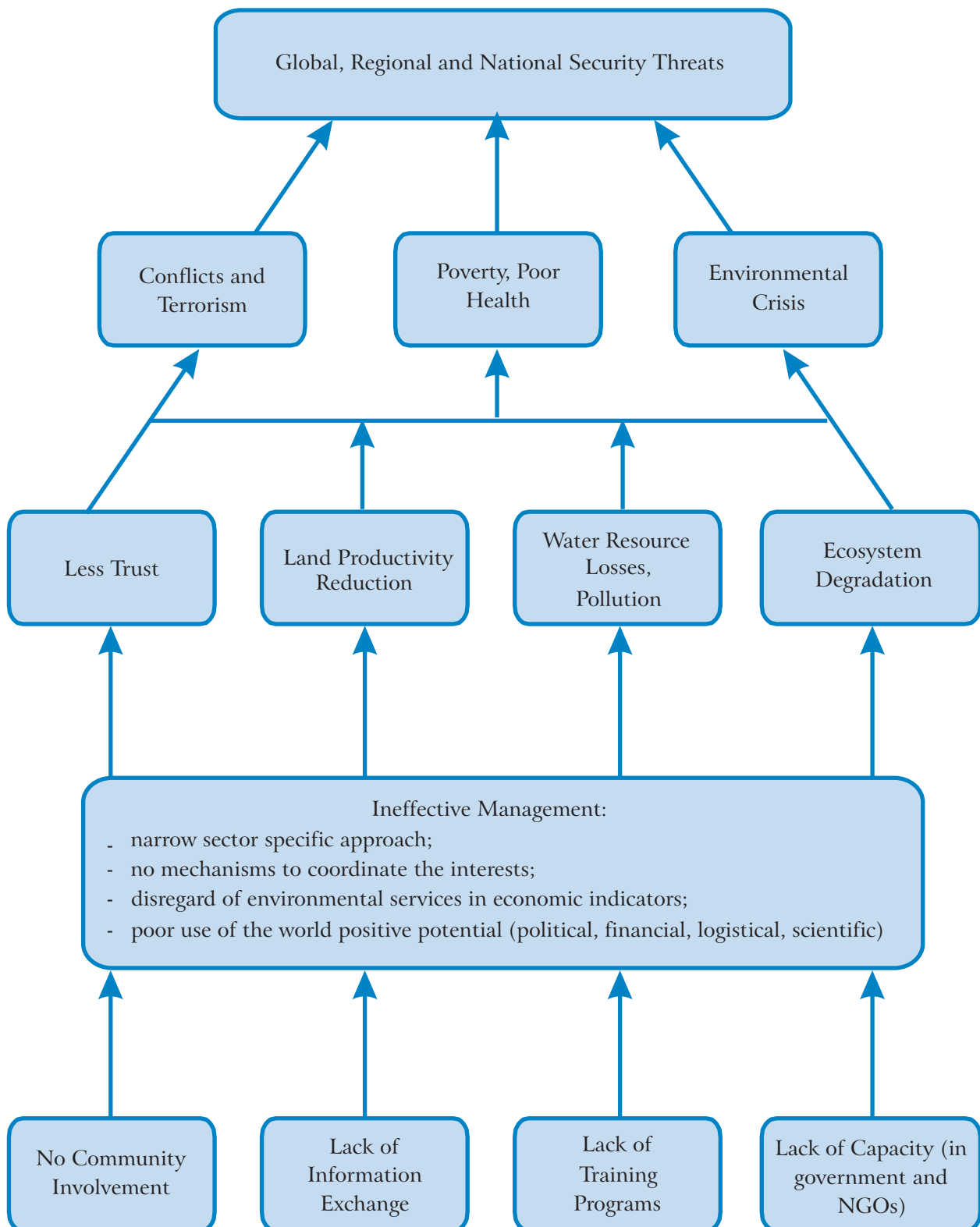
44 The management systems in existing CA at the national and subregional levels were inherited from the Soviet system and based on the hierarchical models need the improvement. The legal base of the regional water cooperation includes, basically the agreements of the framework type. They do not cover all the problems and the detailed mechanisms of decision-making and the mutual control for an observance of obligations adopted. At present lack of development of the goal coordination mechanism between sectors, countries and stakeholders are the key problems for CA as well as for many other regions.

45 Hydrographic boundaries of river basins should be viewed as a foundation to build water resource management bodies. This principle proceeds from the unity of all the basin resources and multilateral character of their use: economic, social, ecological, cultural and sanitary. As many river basins cover the territory of several countries the decision of many problems of water use at the same basin cannot be solved proceeding only from the national conditions and interests.

46 In Almaty’s Declaration of the CA leaders (32) it has been recognised, that management of transboundary river resources should have the ecosystem approach and be carried by fair and reasonable manner without damages. In Nukus Declaration the heads of states, it has been underlined, that “scale and complexity of problems concerning the water resources require the integrated and diversified approach and development of collaboration between states of region and the international community”; also “the total support of the international agreements, in particularly, the protection of transboundary water” has been declared.(23)

The water economy in its present state represents mainly the interests of an agriculture sector instead of all the branches of economy. The organisation of the water economy management should be modernised to present equivalently the interests of irrigation, hydro-power and other branches, to observe the priorities of drinking water supply, water saving etc., to provide the principle of the equal rights and responsibilities of all water users(12)

Causes and Effect Relation of Priority Problems in Central Asia



47 Eco-system approach allows also other estimation of the significance and role of CA water resources in zones of watercourses formation, which are at the territory of Tajikistan and Kyrgyztan as well as the significance of the large subregion water objects such as the Aral Sea, the Issyk-Kul Lake, the Balkhash and others. The Kyrgyztan and Tajikistan mountain glaciers and the rational use of the subregion water resources are important for conservation of global balance, safety and sustainable development not only CA, but also the contiguous territories.

48 Globalisation as a new factor of the modern world effects also on the possibilities of management in CA. Globalisation as an external factor of the sub-region countries development leads to increase of threats to safety and compels the CA countries to increase the exploitation of the natural and social potentials and to enhance pressure on the water eco-systems. At present through the global economic and information mechanisms the globalisation as a new development factor brings some threats to countries' sovereignty and requires activating as the internal potentials as the subregional and regional integration.

49 Management of water quality cannot be separated from the water management. For example, the state control of the surface water quality is carried out by the Ministry for Environment, the ground water quality – by the

Ministry of Energy and the drinking water quality – by the bodies of health protection. It requires their constant well-coordinated interaction. However, the certain competition between ministries having the authorities in the field of environment protection takes place and the interested cooperation does not occur in spite of the agreements signed. The integration of actions is possible not so much on the base of protocols and agreements as on the base of the common goals. Thus, the integration of goals and priorities is the important task for environmental ministries (7).

50 The serious barrier for introduction of the efficient management is the shortage of potentials. The limited possibilities of environmental, water economy and other ministries having the permanent reorganizations and reduction of the staff and at the same time appealed to protect the public interests, and the weakness of the civil community and NGO do not allow to implement the recommendations on management in practice. Shortage of potentials is observed in the technical provision as well as education, analysis skills or readiness to cooperation.

51 The economic mechanism of environment protection and water use is another important aspect of management. It depends basically on “external” factors such as the general economic reforms and account of the costs of ecological services and adequate estimation of resources

by the economic indexes of IMF and WB. Practically the present economic indexes do not take into account the eco-system services and the real water cost. The ecological and natural rent would help to solve this problem and in parallel to assist to the redistribution of funds acting as a tax collection to the local and national budget and for environment protection.

52 It is noted the similarity of opinions of majority of the national and international experts, that the process of the agreement development on the concrete problems of the interstate water relations can be promoted after adoption of the common strategy of the rational use and eco-system protection and after increasing of the coordination commissions status in CA. The Dushanbe's Statement of states' leaders has called to give the UN status to ICWC. The increase of status of this body would allow improving the coordination of the present programmes and projects to reach the sustainable development goals.

*Agenda-21, item 38.30:
the subregional
commissions should play
as far as possible the
leading role in
coordination of the
subregional activity
implemented by the
sectoral and other
bodies of UN, and
assist to countries to
reach the sustainable
development.*

53 It is not possible to solve the problems of the environment protection without partnership. The partnership assumes the equal status of all interested participants of the process. The partnership is a new type of relations between the state, public and international organisations, business, donors and recipients. At the WSSD more than 200 partners and voluntary initiatives on solution of the global and regional problems have been announced. CA has started the initiative on the sustainable development of subregion – CA Agenda-21, which has been included in WSSD implementation Plan. Partnership assumes the interested collaboration to get the consensus on the joint goals, the free information exchange and participation of all stakeholders in decision-making.

IV PARTNERSHIP AS A BASE OF PRIORITY ACHIEVEMENT



54 The free information exchange is one of the important conditions of the partnership. The first, information should be acceptable. The second, it should be used for the various goals, among which the preparation of the strategic scenarios, result monitoring and increasing the public awareness are the most important. "Today the ecological information is very weak part in management. It is not easy to identify the available information and to get an access to the necessary information. It needs to solve urgently these serious problems. That requires the collaboration of all the parts of the community: government, scientists, mass media and NGO".(14)

55 Another important condition of the partnership is the staff preparation and the education. In CA countries the sufficiently high education level has been kept, but the last years the attention to education is rather decreased. In the report (7) has been noted, that at present the harmonious system of the ecological education and bringing-up, the formation of environmental view, change of consumer psychology and development of ecological culture and ethic is absent. Shortage of the high skilled staff in the field of environment protection is extremely felt. Their shortage for completion of the staff of the environment protection bodies and industry, and in the branch and academic institutes is observed. The availability of specialists with the systematic and comprehensive preparation, which are able to see the problems in whole and make a decision on the base of the mutual analysis of the ecological factors, is the urgent requirement.

56 The Aarhus Convention may has a significant role in the strengthening potentials and development of partnership. At the same time the role of the public organizations and their participation in implementing programmes is not significant. It is connected with non-sufficient NGO potentials, their non-stable financial and technical base as well as unavailability of the state structures to involve the NGOs as full partners of the programme and weakness of the legal base of functioning the civil community.

57 Joint actions of CA countries may be carried out more effectively at participation of the international organisations and donors, which regulate the world market and policy and could be the guarantors of the agreements. The management system can obtain the strong support at the external level. At the same time their activity may be paralysed or conversed in a source of the corruption due to the external political intervention. For enterprises the general government policy is such external factor.

58 It needs to note, that the present legal frames of relations between subregion and the world society do not allow the maximum use of their potentials as well as the possibilities of the world community. To solve the problems of environment, water and safety the creation of new frames for the inter-sectoral and subregional cooperation and strengthening potentials are necessary. The mutual agreement between all participants of the process – countries, donors, business and civil sector should be a base of that. This document should express the common goals

and also the mechanism development of the goal achievement, stimulation, monitoring and responsibility.

59 The decisions adopted in frameworks of preparation to WSSD (Millennium Summit, Monterrey Consensus, Doha and Johannesburg Declarations and Europe Water Initiative) have formed the base for new level of relations between countries and regions on principles of the efficient management and partnership, and system, in which governments, the international organizations, donors and the basic groups can overstep the frames of the administrative and sectoral barriers to solve the multi-factor problems. The Monterrey decision foresees the adoption of the mutual obligations of the developed as well as developing countries.(18) There are the increase of size and quality of the financial-technical assistance, widening access to the world markets, the transfer of technologies, the development of preferences for countries, which are not having outlet to the sea, the possibilities of WTO, the removal of the connected character of assistance and other among these obligations. In Monterrey the creation of "the global agreement, including obligations of the developed and developing countries ..." has been proposed.

60 At the subregional seminar "Rio +10: CA", which has been held in Almaty on 10-11 May 2002, in frames of CA Agenda-21 it was proposed "to consider the possibility of the subregional agreement on eco-system services, environment protection, safety and development of the civil society in CA on the one hand and the political, technical and financial support of CA

efforts by the international community and the developed countries on the other hand”.(3) The proposal on the Regional Agreement has been presented in “Review of CA Progress on implementing Agenda-21” and statement of the ICSD CA on the WSSD: “Our countries offer to introduce the economic mechanism with possibilities of exchange of debts for ecology and subregional agreement”. (9) The partnership institute created by the regional agreement will give a base for the efficient management, the inter-sectoral and inter-state co-operation for sustainable development and safety in CA. The regional environmental centre for CA created by the governments of CA countries, EU and UNDP for the support of partnership can also use own possibilities to strength the inter-sectoral cooperation especially in the fields, where the authorities of the inter-governmental organisations are limited.

61 The following may be the basic components of the Regional Agreement: - The confirmation of the political will at the highest level and the adoption of obligations quantitatively presented by CA to reach the SD goals;

- ◆ The agreement with donors on the foreign assistance and participation of CA in implementation of the decisions of Johannesburg, Monterrey and Doha and mobilization of the foreign and internal financing;
- ◆ The creation of subregional UN commission in CA, strengthening and widening of authorities of acting subregional organisations and creation of the public Council on problems of development;

- ◆ The organisation of the wide discussion with the public, governmental structures, business and local bodies on the SD goals and measures for their reaching; and involvement of all stakeholders into the process of decision-making;
- ◆ The strengthening of the potentials of NGO and ministries for environment protection and hydro-economy organisations to undertake the obligations adopted;
- ◆ The creation of the information development portal for CA (CA Gateway);
- ◆ The preparation and signing of the international legal document about the transboundary water problems, ecology and security in CA;
- ◆ The creation of the Public Foundation on SD CA with participation of governments, donors, business and public;
- ◆ The preparation and implementation of projects on realisation of goals and obligations.

62 In statement of the ministers of economy, finance and environment protection of CA countries (28) and in “Review on progress in CA on implementing Agenda-21” (9) a creation of the Public Foundation for Sustainable Development of Subregion has been proposed. Its goal is “to support the efforts of subregion countries on development and implementation of Convention and Strategy on Sustainable Development of CA, and it would be jointly controlled by the representatives of donors, governments and the local

communities. Such Foundation would be as an additional financial mechanism, including the restructuring of the foreign liabilities of CA countries with a goal of the sustainable development.

“To encourage the development of the innovative financial mechanisms, financially stable strategies, including the introduction of the water price policy sensitive to the poor needs, and principles concerning the finance of users and private sector for a maximum creation of the public funds, risk minimization and strengthened involving the private sector and investments”.
Johannesburg Declaration on the strategic partnership of EC and WECCA on water issues for SD, 3.09.2002

63 As well known, the common goals should be a partnership base. It would be advisable to start their implementation with priority actions and goals limited. These goals should correspond to the national and subregional priorities as well as obligations in the field of EP and SD earlier adopted by CA countries. Besides these goals should have the quantity indicators and time frames for their achievement.

V MAIN GOALS AND COMMITMENTS

64 The environmental experts and governmental bodies have determined the following goals to solve the key problems of safety, water and environment:

- Goal 1. Providing of sustainable functioning of water basins ecosystems, vitally important for human life.** Prevent degradation of water basin ecosystems essential for living and operations in the sub-region.
- Goal 2. Sound Use of and Access to Potable Water.** Ensure the appropriate quality and quantity of water for population, production and ecosystems.
- Goal 3. Inter-Sector Partnership and Capacity Building.** Create and strengthen tools to harmonize interests and strengthen capacity of environmental and water organizations.

65 These goals correspond to the principal goals of the Millennium Declaration and will promote the regional and global safety and poverty reduction.

66 According to the experts, the following number of factors is to be considered to reach the CA commitments:- population growth in CA (estimate of 41% from 1995 to 2025);

- economic growth of countries;
- water cost growth as a result of increased contamination and treatment costs;
- increase of water mineralization and increasing the soil salinization processes;
- wear and tear of irrigation systems and water supply network, as well as lack of funds for reconstruction;
- reduction of glaciers due to the global climatic changes and salt and dust sedimentation, as a result water reservoirs will be getting shallow, desertification and salinization will increase;
- deforestation in the areas of water-flow formation and degradation of flood plain forests.

Many programs of the CA countries include quantifiable commitments to increase access to potable water. Agenda-21 of the Kyrgyz Republic proposes “to ensure 100% access to good quality potable water for the KR population by 2010”, the National Sustainable Development Strategy of the Republic of Uzbekistan – to provide access to potable water for 85% of the rural population by 2005. The State Program of the Republic of Kazakhstan “Potable Water” for 2001-2030 targets to increase public water supply level by 65% and to expand the share of the population using water from the centralized water supply sources in the country by 20-25%. The joint RK Government and UN Report “UN Development Goals at the Threshold of the Millennium in Kazakhstan” 2002 contains an optimistic forecast with regards to the implementation of the millennium goals in water supply in Kazakhstan.

Goal 1. Providing of sustainable functioning of water basins ecosystems, vitally important for human life.

1.1. Ensure Water Release for Ecosystem Needs.

Ensure sanitary releases to preserve water ecosystems, which are important for the lower part of the Amudarya, Syrdarya, Zeravshan, Irtysh and other rivers in the sub-region. An indicator for that is ensuring a minimum runoff in the lower part of the above rivers, especially in low-water years: 100-150 m³/s for Amudarya, below Takhtanash; 100 m³/s for Surdarya below Kzylorda, 50 m³/s for Zeravshan within the Navoi region.

Ensure water feed for the Aral area (southern part) to support the system of wetlands (5,5 - 8,0 km³/year) and for the Syrdarya delta (for the system of wetlands) and the Small Sea - 5,0 km³/year. Allocation of 20 km³ a year by 2115 for the environmental needs of the Aral basin is recognized to be a feasible and politically acceptable objective to be achieved through water saving interventions applied for all types of human water consumption (37)

1.2. Stabilize irrigated land salinization processes and carry-over of salts from the irrigated areas to the rivers.

The goal is to be achieved through stabilization of the process of toxic salts accumulation in the irrigated areas and reduction of salts carry-over with drainage water to the rivers. This requires introduction of water saving technologies to irrigation, recovery and development of drainage systems and return

water recycling. The part of saline irrigated areas (medium and high salinity) can be reduced from 45 to 10% (37).

Indicators.

1. The processes of toxic salts accumulation stabilized for 20 % of the total irrigated area in the region.
2. Salts carry-over to the rivers through the drainage networks does not increase the overall water mineralization in the rivers by more than 2 g/l.
3. Utilization of drainage and return water reached 15% of the total formed volume by 2010-2015. The importance of this objective has been stressed in the Dushanbe Declaration of the Heads of the CA States dated October 6, 2002 (33).

1.3. Increase the Part of Renewable Energy Sources to 15% of the Primary Energy Supply.

Achievable through, the first of all, increased use of hydraulic power generation (the capacity of Tajikistan's mountain rivers ranks third in the world in hydro resources with the gross hydro power capacity of 527,000

GWatt/year, Kyrgyzstan's capacity is 162,500 GWatt/year, Kazakhstan's capacity is 110,000 GWatt/year, Uzbekistan's – 88,000 GWatt/year.

1.4. Expand the areas of specially protected territories in the river delta and zones of the flow formation by 40% and ensure the complete water protected regime.

1.5. Increase the percentage of forest land, curtail erosion of mountain land, increase water-retaining capacity of mountain ecosystems.

It should be to expand erosion control activities, ensure forest replenishment, expansion and protection, considering it to be one of the main objectives of sustainable mountain area development.

1.6. Integrate the Caspian Environmental Program into Economic Activities.

To expand the status of the Caspian Ecological Programme to the Programme of sustainable development of the Caspian Sea, integrate it into the economic programmes of the pri-Caspian states and projects of new technologies and business development.

The EU Energy Initiative: the EU proposes to beneficiaries to increase the share of renewable energy sources to at least 15% of the primary energy supply by 2010 and to improve energy efficiency (June 21-22, Seville Meeting of the EU Heads of States and Governments on the EU Position for WSSD)

“Water saving through 50% reduction of infiltration losses on fields, which is possible to reach, will provide additional 12 km³ a year. It is possible to reduce drainage flow by almost 40% through improved water management practices. That will mean a decrease of water loss in the Aral basin by almost 5 km³ a year. Therefore, sound and efficient water resource use is considered to be a great potential for reduction of water losses estimated as about 17 cubic km a year.” (30)

Goal 2. Sound Water Use and Access to Potable Water

2.1. Reduce unproductive water loss in irrigated farming by 20% by 2010.

Implementation of the principles of integrated water resource management will allow to reduce organized losses at all hierarchical levels and on farms. It should primarily be focused on providing incentives for and introducing capital efficient water saving methods to households or fields (which account for 50 % of total water loss in irrigation). It is necessary to develop a law on water saving and a special water saving investment program.

2.2. Develop Water-Retaining Industries, Including Rainfed Farming.

The draft national water and salt management plans envision no expansion of the area under cotton, however, with population growth there will be a big increase of cereals and feed crops production.

2.3. By 2015 ensure the optimal specific norms for domestic consumption per capita at the regional level.

Indicators - potable water consumption should not exceed 250 litres a day per

person in the urban area and 100 litres a day in the rural region by 2015.

2.4. Reconstruct Water Supply Systems

Objective is increasing water supply coverage to 99% for urban population and to 60% for rural population. (37)

2.5. Reduce irrevocable specific industrial water consumption by 30-40%,

possibly through introduction of modern resource saving technologies with water recycling.

2.6. Improve dangerous wastes management within watersheds of transboundary rivers.

To be achieved through implementation of joint regional projects, coordination of national regulations with the EC norms in the area of wastes management and utilization control, development of economic mechanisms encouraging introduction of cleaner technologies and wastes reduction, introduction of cleaner technologies, wasteless production and waste minimization.

Goal 3. Inter-Sector Partnership and Capacity Building.

3.1. Ensure Existence of the Political Structure to Support Broad Public Dialogue and SD Goals Implementation Process - Establish SDC under the UN in CA

It needs to establish a special UN commission responsible for coordination of activities of international organizations and donor countries in addressing the problems of the Aral Sea basin (33).

3.2. Joining to the UNECE Convention on Use of Transboundary Water Resources.

The heads of the CA states stated their “total support of international agreements, in particular... on protection of transboundary water” (23). It is necessary to develop interstate and regional norms and agreements on EIA and compensation mechanisms. The priority objective is to take inventory of all water bodies and to develop a mainframe base for the interstate apportioning of water. Indicator – ratification of conventions by Central Asian countries and development of subregional mechanism of execution.

Development and implementation of an integrated approach to water resource management and environmental management problem solving in the sub-region initially at the

ational level (the priority needs to be given to the pilot projects in the lower part of the Amudarya and Syrdarya). Establish associations of water users, water councils and other public farmer unions.

Development of the “Regional Water Partnership in Central Asia”, taking into account social, economic and environmental value of water and ensuring involvement of all stakeholders, including NGOs.

3.3. Ensure Free Access to All Hydrological Data and Other Scientific Information about Water Resources, Water Resource Management and Use.

Development and implementation of transparent water resource information management, assessment, forecasting, use and protection systems alongside with the communications systems at all levels of water hierarchy (ASB, water management organizations and water users) for improved decision-making process will contribute to the implementation of this objective.(1)

3.4. Double Public and Government Access to the Internet and the Number of Environmental Shows and Publications in Mass Media

- *Increase electronic mass media coverage of sustainable development issues to 30%*
- *Create National information networks on 4 areas of sustainable development to meet 80 – 90% of the need for information in the internal market (2)*

3.5. Education: double the number of environmental education courses and programs.

Maintain a 30% “critical” mass of officials with the knowledge of sustainable development problem in order to increase effectiveness of decision-making, monitoring and evaluation of Agenda 21 through annual attestation and continuing training (2).

68 The above goals with the required implementation mechanisms may serve as a foundation for the partnership agreement between the CA countries, donors and international organizations. Such agreement could be proclaimed at the forthcoming Pan-European Ministerial Conference in May 2003 as a contribution of the CA countries and the world community to the implementation of the Millennium Goals, WSSD commitment and decisions.

CONCLUSIONS

69 The CA countries celebrated the tenth anniversary of their independence the last year are on a way of a creation of the civil society. The mechanisms of management and making-decision inherited from the soviet system, directed to increasing the production potentials and based on the command economic did not allow duly to take into account the interests of population and environment, and they raised difficulties to the future development.

70 The ten-year experience of new independent states of CA showed, that the uncoordinated efforts of the individual sectors did not lead to the expected results and did not solve the urgent problems in fields of environment and development in CA. It became obviously, that another approach was required, which should be based on own long-time processes with involving the stakeholders and wide public, integrated with the international and regional programmes and agreements and used the world experiences accumulated and own organisations and potentials.

71 CA countries have developed such approach during the preparation to the WSSD and proposed the partnership initiative on sustainable development of the sub-region (CA Agenda-21) included in Implementation Plan of WSSD and in a list of partnership initiatives of WSSD. Process started from below under initiative of CA countries in the partnership with the regional and global programmes should form a necessary base for development of the democratic reforms carried out in sub-region and for conservation of eco-systems and rational use of resources.

72 At the Consultative sub-regional meeting at the level of heads of environment protection and of the water economy sectors of CA countries with

participation of the representatives of the international and public organisations, business and donor-countries the following was decided: the present report has been approved; the priority goals of sub-region development have been detailed and co-ordinated; and a proposal on preparation of Agreement on partnership of CA countries with the interested organisations, the donor-countries and the regional and international institutions has been accepted for implementation of SD obligations and of goals adopted at WSSD.

73 The priority goals with the quantity indicators suggested in the report will help to consolidate the efforts of the various sectors and stakeholders (organisations, donor-countries) and to use totally the potentials of countries as well as whole the world society. Conservation of eco-systems, rational water use, and strengthening of the inter-sectoral partnership and potentials are determined as the priority goals of CA and are condition for the stability and the national and regional safety.

74 With the purpose of development of the above-mentioned decisions the inter-sectoral working groups including the representatives of all countries, ICSD, ICWC, other sub-regional organisations and sectors of economic, water and ecology have been created for the integration of efforts for preparation of the future programme on SD of countries of the Aral basin. The programme should take into account all experience accumulated, form the mechanism of co-ordination and implementation and provide both the wide participation of community and the strengthening of potential. Such programme should be presented for its approval at Dushanbe Forum on the fresh water in August 2003.

75 For strengthening of the political base of the process of preparation and implementation of the CA Initiative on SD the present sub-regional institutions and mechanisms created by the leaders of the CA states will be consolidated and strengthened. In accord with the declaration of the leaders of CA countries (17) the negotiations have been started to impart the UN status to the International fund on saving the Aral Sea (analogue of the Commission of high level on SD in CA).

76 On the base of principles of partnership and of the Aarhus Convention the wide public process of consultations and of involving the community as well as the technical process of planning and implementing the specific projects and programmes to arrive at the goals and obligations adopted will be organised. The plan of the specific actions integrated with the real processes existent in the CA countries and taking into account the interests of all stakeholders and environment will be developed for each goal. The process of partnership between sectors and countries started in CA will be developed and supported by all stakeholders. The improved mechanism of coordination will promote the continuity and strengthening of this process.

77 Collaboration experience of the CA countries, their initiatives and mechanisms of collaboration created allow hoping for implementation of the obligations adopted and goals declared by the sub-region. The healthy population having the sufficient amount of water and of food will live in harmony with environment in the CA sub-region, which is the common home for many nations and millions people for a long time and forever.

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ANNEX

The Central Asia Intergovernmental agreements.

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